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Information Bulletin

• Grade 3 Mathematics •

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This bulletin contains general information about the Achievement Testing Program and information specific to the Grade 3 Mathematics Achievement Test. **This bulletin replaces all previous bulletins.**

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September 1999

Achievement Testing Program Purpose

The purpose of the Achievement Testing Program is to

- determine if students are learning what they are expected to learn
- report to Albertans how well students have achieved provincial standards at given points in their schooling
- assist schools, jurisdictions, and the province in monitoring and improving student learning

Enhance Student Learning

Careful examination and interpretation of the results can help identify areas of relative strength and weakness in student achievement. Teachers and administrators can use this information in planning and delivering relevant and effective instruction in relation to learning outcomes in the *Programs of Study*.

Enable Accountability

Alberta Learning and school jurisdiction personnel are responsible for ensuring that high-quality education is provided to all students in the province.

Information about achievement is provided to

- schools and jurisdictions
- parents
- the public

so that they may know how well students in their schools are meeting local targets and provincial expectations.

Interpreting Results

Achievement tests assess only part of what is to be learned. In addition, many factors contribute to student achievement. Personnel at the jurisdiction and school levels are in the best position to appropriately interpret, use, and communicate jurisdiction and school results in the local context.

General Information

The Achievement Testing Program provides teachers, parents, students, school administrators, Alberta Learning, and the public with information about what students know and can do in relation to provincial standards. Group results are reported at school, district, and provincial levels to improve learning opportunities for students.

The assessments are administered in two subject areas in Grade 3—language arts and mathematics—and in four subject areas in grades 6 and 9—language arts, mathematics, social studies, and science.

The assessments are based on provincial standards, which reflect important learnings in the subject areas listed above. Classroom teachers from across the province are extensively involved in developing, field testing, and marking the assessment instruments. Teachers are also involved in setting assessment standards.

Reporting the Results

On August 25, 1999, each jurisdiction and school connected via extranet received, electronically, individual school reports and jurisdiction reports regarding their students' achievement, as well as guidelines for interpreting these results in relation to provincial standards.

To facilitate reflection on school programs, we expect that results will be shared with all school staff (not just teachers of grades 3, 6, and 9), as well as with parents and the community.

Two copies of an individual profile for each student will be sent to the school that the student will attend in September. We expect that the Parent Copy will be given to parents and the School Copy will remain with the student's record.

Administering the Tests

Information about the nature of the provincial assessments as well as their administration to students requiring special provisions can be found in the *General Information Bulletin, Achievement Testing Program*, which is distributed to all school principals and is posted on the Alberta Learning web site <http://ednet.edc.gov.ab.ca>.

Principals should refer to the *Principal's Manual* for specific information regarding schedules, security, rules, responsibilities, policies, and the administration of all achievement tests.

Teachers can refer to the *Teacher's Manual* for specific information regarding procedures for administering all achievement tests and the local marking of the written response for Language Arts achievement tests.

Students in Francophone and French Immersion Programs

All students in Francophone and French Immersion programs must write English Language Arts, French Language Arts, and French versions of other achievement tests if their language of instruction is French. Alberta Learning will send a checklist to schools in January requesting an indication of how many English or French tests are required. These forms must be returned through jurisdiction offices by mid-February.

**The following achievement tests are secured:
ALL tests from 1998 and 1999**

Standards: Curriculum, Assessment, Achievement

Definitions

The Achievement Testing Program is directly concerned with three different but related standards. These provincial standards are curriculum standards, assessment standards, and achievement standards.

- **Curriculum Standards** are the expected student learnings sequenced into grade levels. They include broad statements of knowledge, skills, and attitude expectations against which student performance is judged. These standards are established in the process of curriculum development and are found in the *Programs of Study* document produced for each subject.
- **Assessment Standards** are the criteria adopted for judging actual student achievement relative to curriculum standards. They are ultimately expressed in and applied to test scores. They are derived from answers to questions such as: what scores must a student obtain or how many questions on a given test must a student answer correctly in order for his/her performance on the test to be judged as acceptable or excellent?
- **Achievement Standards** are judgements that specify what percentages of students are expected to achieve an acceptable and an excellent level of achievement in relation to each course of studies; i.e., to the relevant curriculum standards. They reflect a community judgement about what is an appropriate expectation for students. It is important to point out that this judgement is not a prediction of the percentage of students who will actually achieve acceptable or excellent levels, but rather a specification of the percentage of students at a given grade or year in school

who are *expected* to achieve the acceptable (85%) or excellent level (15%). **The 85% of students expected to meet the acceptable standard includes those students who meet the standard of excellence.** These standards apply to school, jurisdiction, and provincial performance.

Local Targets and Planning

A target is an implicit part of any goal. A school's educational goals point the directions for people's efforts, but targets describe in specific terms what will be accomplished by a certain time. This allows people to assess whether they are heading where they intend to go, and how well they are moving toward their desired outcomes. Assessment of progress in relation to a target may also lead to the recognition that a different target would be more helpful in guiding a school's or jurisdiction's efforts toward a particular goal. By identifying immediate, reachable outcomes, targets encourage teachers, students, administrators, and their community to believe that distant goals are attainable.

Viewed in this way, targets can be a valuable part of a school board's education plan. The mission, mandate, values and beliefs, and long-range goals all provide a context for setting specific targets. Similarly, past accomplishments are helpful indicators of what specific targets may be most appropriate. This is why achievement test results, as well as results of various other local assessments, are relevant in target setting.

Focus

District targets for student achievement on the provincial achievement tests are a required part of a school board's education plan. These district targets provide a framework for each school in the district to use in setting local targets. However, the setting of specific targets by each school is necessary as part of a plan of action and as a

basis for assessing the effectiveness of local decisions about programs. District targets will be most helpful if they reflect the variations identified by the local targets set by individual schools.

Systematic interpretation of school results from provincial achievement tests will reveal where students need more help in order to continue learning successfully. This can be the beginning point for setting local targets for student performance on the tests in the next year or two. The provincial expectation that at least 85% of students will achieve the *acceptable standard* on each test indicates the long-term goal, but staff in each school should identify what percentage of their students reasonably can be expected to achieve the provincial standard on a particular test in a given year. An important part of this decision is agreeing on how resources and people can support the priorities that have been set locally.

Tips for Setting Local Targets

- Consider past and desired participation rates in achievement tests when setting targets for student performance on specific tests.
- Focus on a limited number of areas. For example, emphasize one or two subjects in which weaknesses in student performance are across grades. It may be reasonable to set “hold the line” targets in other areas temporarily.
- Work collaboratively across grades in a school. Students’ performance on an achievement test reflects their learning over the years. Teachers in all grades can contribute important insights and assistance in setting targets.
- Use the school reports on achievement test results to identify which aspects of a subject need attention, and use this information to plan targets.
- Emphasize what students need in order to succeed, rather than focusing on problems that keep students from achieving at the levels expected provincially.

- Expect to set different targets in different grades and subjects, depending on past results and current priorities and resources.
- Work collaboratively at the district level, to identify areas of common strength or weakness across different schools and to determine targets for the district that can support all schools.
- Interpret targets for students so that they are part of the school-wide effort to achieve school targets. Inform parents, too.
- Report to students and parents on student achievement in relation to targets.

Targets in Perspective

Provincial tests, though providing a common standard and important information about students’ learning, are only one of many indicators that should be used to evaluate the effectiveness of schools. School boards and individual schools may find it helpful to set targets related to other measures of student achievement and to areas other than student achievement. Examples of these include completion of programs, satisfaction reported by students or parents, collaboration of parents or others from the community, student involvement in the community, and other types of indicators reflecting local educational goals.

Through its targets, each school board or school, together with parents and members of the community, can highlight priorities that exist locally for a given year and can commit to achieving certain results. Insofar as target setting complements other strategies for improving student learning, targets are likely to contribute to student learning and to the overall effectiveness of schooling in the community.

Purpose of Assessment Standards

The provincial standards are the basis upon which we assess how well students have learned English Language Arts and Mathematics by the end of Grade 3, and English Language Arts, Mathematics, Science, and Social Studies by the end of

Grade 6 and Grade 9. These standards reflect the essential learnings that all Alberta students are expected to achieve. Provincial standards are useful, therefore, for assessing grades 3, 6, and 9 students in all types of school programs—public, private, and home education. By comparing actual results with provincial standards, decisions can be made about whether achievement is, in fact, “good enough.”

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Grade 3 Mathematics Assessment

General Description

The Grade 3 Mathematics Achievement assessment is composed of two parts.

- *Part A: Timed Number Facts* has three sub-tests—35 addition facts (to 18), 35 subtraction facts (to 18), and 25 multiplication facts (to 49), each worth one mark. Each sub-test is designed to be completed in two minutes, with a break provided between sub-tests.
- *Part B: Multiple Choice* has 40 questions, each worth one mark, integrated into a two-narrative section. Each section is designed to be completed in 30 minutes with a break provided between sections. Additional time of up to 30 minutes may be provided for students to complete the test. (Note: additional time is NOT provided on the Timed Number Facts tests.)

Those students for whom the four-function calculator is a familiar classroom tool **are encouraged, but not required**, to use a calculator when writing the multiple-choice component of the Grade 3 Mathematics Achievement Test; however, they **shall not** use calculators when writing the Timed Number Facts component of the test.

The blueprint for the multiple-choice component is on page 3. The sample questions on pages 9 to 26 may be used by teachers to help their students prepare for the provincial assessment.

Students record their answers to all questions directly in their test booklets.

Reporting Categories

The following indicators briefly highlight the learnings for each reporting category.

Knowledge

- recalls facts, concepts, terminology
- knows number facts
- recognizes place value
- knows procedures for computations
- knows procedures for constructing and measuring
- knows how to use a calculator/computer
- knows mental computation, estimation strategies

Skills

- represents basic mathematical concepts in concrete, pictorial, and/or symbolic modes
- applies a mathematical concept in familiar and new situations
- creates new problem situations that exemplify a concept
- justifies answers
- judges reasonableness of answers
- communicates why and when certain strategies are appropriate
- applies basic mathematical concepts to solve problems
- demonstrates and applies relationships among numbers, operations, number forms, and modes of representation
- explains relationships among geometric forms
- uses a variety of problem-solving strategies

| Components | Questions | Time | Weighting for Overall Score |
|---------------------------------|-----------|------------|-----------------------------|
| Part A: Timed Number Facts | 95 | 6 minutes | approximately 10% |
| Part B: Multiple-Choice Test | 40 | 60 minutes | approximately 90% |

Description of the Mathematics Assessment Standards

The following statements describe what is expected of Grade 3 students who are meeting the *acceptable standard* or the *standard of excellence* based on outcomes in the Program of Study. These statements represent the standards against which student achievement is measured. It is important to remember that one test alone cannot measure completely all of the outcomes in the Program of Study.

| <i>Acceptable Standard</i> | <i>Standard of Excellence</i> |
|--|--|
| <p>Students who meet the <i>acceptable standard</i> in Grade 3 Mathematics have a basic understanding of mathematical concepts and related procedural knowledge. They are able to demonstrate their understanding in concrete, pictorial, and symbolic modes, and to translate from one mode to another. For example, students meeting the <i>acceptable standard</i> know that the solution to the number sentence $12 - 3 = \square$ is 9, and they can demonstrate their understanding in concrete and pictorial ways. They can write related number sentences and verify them, using manipulatives and diagrams. Students who meet the <i>acceptable standard</i> build on a foundation of previous learnings and derive meaning from problem-solving experiences in their world.</p> | <p>Students who meet the <i>standard of excellence</i> in Grade 3 Mathematics have a superior understanding of mathematical concepts and related procedural knowledge. They are consistently able to demonstrate their understanding in concrete, pictorial, and symbolic modes, and easily translate from one mode to another. They are able to create problem situations to illustrate concepts and to analyze and explain relationships among concepts. For example, students meeting the <i>standard of excellence</i> can write all number sentences related to $12 - 3 = \square$, justify them using manipulatives and diagrams, and create problem situations to exemplify the relationship. They are able to explain how $12 \div 3 = \square$ is related to $12 - 3 = \square$; also, they can explain why these are not defined as related number sentences. Students who meet the <i>standard of excellence</i> build on a foundation of previous learnings and derive meaning from problem-solving experiences in their world.</p> |
| <p>Students meeting the <i>acceptable standard</i> reflect upon, explain, and defend their ideas in an understandable way, using objects, diagrams, everyday language, spoken and written symbols, and, when appropriate, technology.</p> | <p>Students meeting the <i>standard of excellence</i> reflect upon, assess, explain, and defend their ideas and those of others, orally and in writing, using objects, diagrams, everyday and technical language, numbers and number sentences, and, when appropriate, technology.</p> |
| <p>Students meeting the <i>acceptable standard</i> perform the mathematical operations and procedures that are fundamental to the program, and apply what they know to solving simple problems in familiar settings. They can describe, to a limited degree, the steps they use to solve a particular problem.</p> | <p>Students meeting the <i>standard of excellence</i> perform the mathematical operations and procedures that are fundamental to the program, and apply what they know in solving novel problems. They solve and create unique problems, justify their solution, and suggest other solutions and/or strategies. They clearly describe the steps that they use.</p> |
| <p>Students meeting the <i>acceptable standard</i> have a positive attitude about mathematics in their daily lives. They demonstrate confidence when using simple mathematical procedures, and when applying problem-solving strategies in familiar settings.</p> | <p>Students meeting the <i>standard of excellence</i> have a positive attitude toward mathematics and show confidence in performing mathematical tasks. They are self-motivated risk-takers who persevere when solving novel problems. They demonstrate initiative in trying new methods, and are creative in their approach to problem solving.</p> |

Blueprint

The blueprint for mathematics shows the reporting categories under which questions are classified. The number of questions in each category is approximate.

| General Outcomes* | Knowledge | Skills | Number of Questions |
|---|----------------------------|-----------------|---------------------|
| Number <ul style="list-style-type: none"> Develop a number sense for whole numbers 0 to 1000, and explore fractions (fifths and tenths) Apply an arithmetic operation (addition, subtraction, multiplication or division) on whole numbers, and illustrate its use in creating and solving problems Use and justify an appropriate calculation strategy or technology to solve problems | 5 3** | 9 | 17 (39%) |
| Patterns and Relations <ul style="list-style-type: none"> Investigate, establish and communicate rules for numerical and non-numerical patterns, including those found in the home, and use these rules to make predictions | 2 | 4 | 6 (14%) |
| Shape and Space <ul style="list-style-type: none"> Estimate, measure and compare, using whole numbers and primarily standard units of measure Describe, classify, construct and relate 3-D objects and 2-D shapes Use numbers and direction words to describe the relative positions of objects in one dimension, using everyday contexts | 4 | 8 | 12 (28%) |
| Statistics and Probability <ul style="list-style-type: none"> Collect first- and second-hand data, display the results in more than one way, and interpret the data to make predictions Use simple probability experiments, designed by others, to explain outcomes | 3 | 5 | 8 (19%) |
| Number of Questions | 17 (39%) | 26 (61%) | 43 (100%) |

* From the *Alberta Program of Studies for K–9 Mathematics*, June 1996

** The Timed Number Facts sub-tests (addition, subtraction, and multiplication) are included in the general outcome Number and are classified as Knowledge. Each sub-test is worth 1 mark for a maximum of 3 marks.

Preparing Students for the Mathematics Test

The best way to prepare students for writing the achievement tests is to teach the curriculum well and to ensure that children know what is expected. Many of the skills and attitudes that support test writing are in fact good skills and strategies for approaching all kinds of learning tasks.

Have students do the sample questions included in this bulletin. Then, have students share the strategies they used to answer the questions.

Share the following information with your students to help them prepare for the Grade 3 Mathematics Achievement Test.

Suggestions for Answering Questions

Timed Number Facts

Have students:

- *Complete as many questions as possible in the time allotted.*
- *Complete the questions in each sub-test in any order. For example, some students may want to complete the easiest questions first, and then go back to the more difficult ones.*
- *Print their answers as neatly as possible.*

Multiple Choice

Have students:

- *Listen to the story before they complete the mathematics questions.* This will give

students a setting for the questions so that they will be more meaningful.

- *Look at all information on the test and think carefully before they answer the questions.* This will guide them to obtain information from numbers, words, signs, charts, pictures, graphs, or maps.
- *Underline in pencil key words in the question that help them focus on what is expected. Students must refrain from making marks near the alternatives, other than filling in the circle of the answer they choose.*
- *Remember the question that they need to answer as they look at all the information.* This will help them focus on what is being asked of them.
- *Go back and carefully read all the information given.* This will help them keep on track when two or three questions pertain to the same diagram. (Situations like this are always identified with these words: “Use this information to answer questions ☐ and ☐.”)
- *Check their calculations, even when their answer is one of the choices.* This will help them choose the correct answer rather than an answer that is a commonly made mistake.
- *Choose one BEST answer.* This will help them make a choice when two answers appear to be close and they can’t identify the correct answer right away.

For further suggestions, see *Teaching Students with Learning Disabilities*, Alberta Learning, Special Education Branch, pages LD 122 to 124.

Sample Test

The following sample questions reflect the nature and complexity of the questions that will appear on the Grade 3 Mathematics Achievement Test.

Teachers are encouraged to familiarize their students with the types of questions that will appear on the achievement test by having them work through the sample questions.

This collection of sample questions does not represent the total test emphasis as presented in the blueprint.

The sample timed number facts questions appear on pages 6 and 7. These questions reflect the nature of the questions that will appear on *Part A: Timed Number Facts*, not the actual number of items.

The sample questions on pages 9 to 26 appeared on the 1999 Achievement Test and may be used with students (all other questions from this test remain secured). These sample questions, along with questions from previous documents, can be used to prepare students for the upcoming achievement test.

The key and descriptors for the multiple-choice sample questions are on page 27.

Part A: Sample Timed Number Facts

ADDITION

| | | | | |
|---|---|---|---|---|
| $\begin{array}{r} 1 \\ + 6 \\ \hline \end{array}$ | $\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$ | $\begin{array}{r} 2 \\ + 8 \\ \hline \end{array}$ | $\begin{array}{r} 9 \\ + 7 \\ \hline \end{array}$ | $\begin{array}{r} 0 \\ + 3 \\ \hline \end{array}$ |
|---|---|---|---|---|

| | | | | |
|-----------|-----------|-----------|-----------|-----------|
| $4 + 2 =$ | $6 + 6 =$ | $9 + 4 =$ | $1 + 2 =$ | $3 + 5 =$ |
|-----------|-----------|-----------|-----------|-----------|

SUBTRACTION

| | | | | |
|---|--|---|--|---|
| $\begin{array}{r} 7 \\ - 5 \\ \hline \end{array}$ | $\begin{array}{r} 13 \\ - 5 \\ \hline \end{array}$ | $\begin{array}{r} 2 \\ - 1 \\ \hline \end{array}$ | $\begin{array}{r} 15 \\ - 8 \\ \hline \end{array}$ | $\begin{array}{r} 5 \\ - 0 \\ \hline \end{array}$ |
|---|--|---|--|---|

| | | | | |
|-----------|-----------|------------|-----------|-----------|
| $9 - 5 =$ | $8 - 2 =$ | $18 - 9 =$ | $7 - 4 =$ | $8 - 8 =$ |
|-----------|-----------|------------|-----------|-----------|

MULTIPLICATION

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$7 \times 6 =$$

$$3 \times 6 =$$

$$7 \times 7 =$$

$$4 \times 1 =$$

$$5 \times 3 =$$

Part B: Sample Instructions

- Read each question carefully.
- Choose the **BEST** or **CORRECT** answer.
- You may use scrap paper to work out your answers.
- You may use manipulatives and a calculator when answering the questions.
- You will need a pencil, eraser, and ruler. Use **ONLY** an HB pencil.
- Mark your answer in this booklet by filling in the circle next to your answer. Look at the examples to see how to do this.
- Follow along as your teacher reads the story that comes before the questions in each section.

SECTION A

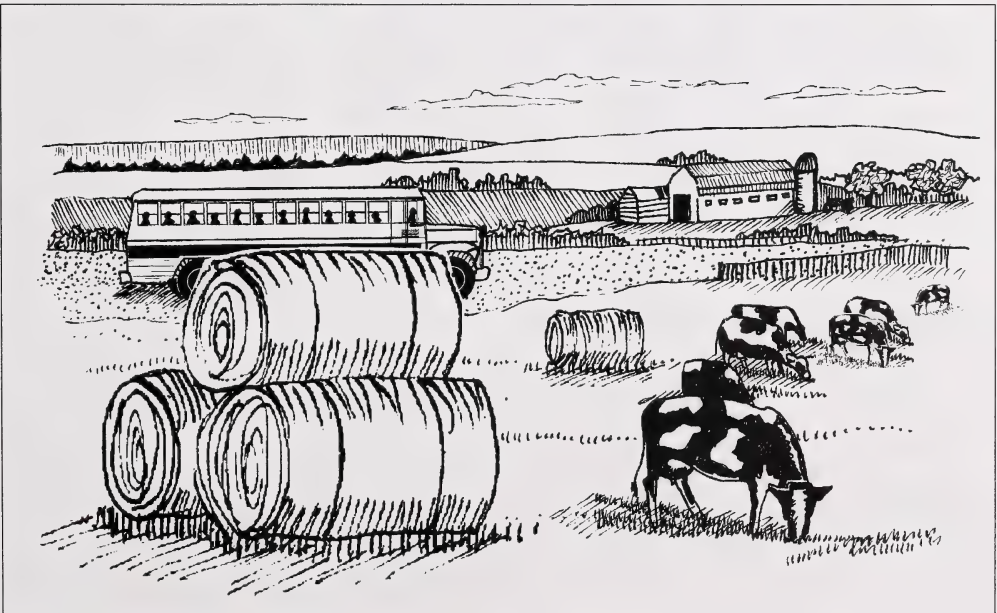
Follow along as your teacher reads this page aloud.

A TRIP TO THE FARM

In our class, we are learning about different kinds of communities in Alberta. Mr. Jones and some parent helpers are taking us on a field trip so we can learn about a farm in our community. We are so excited!

We ride on a school bus to get to the farm. The farm is called Sunny Farm. Mr. and Mrs. Brown own the farm.

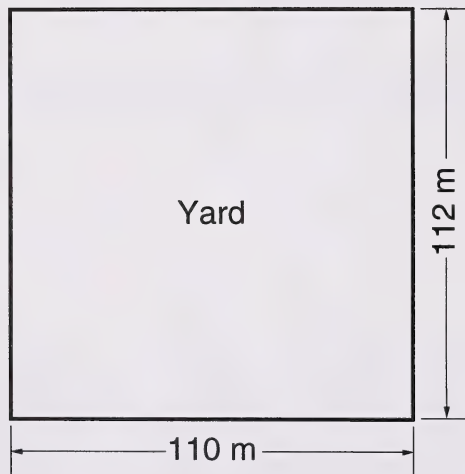
We see many interesting things. We see farm buildings and different kinds of animals.



1. On the way to the farm, we see 33 road signs.
There are 14 distance signs.
The rest are speed signs.

How many speed signs do we see?

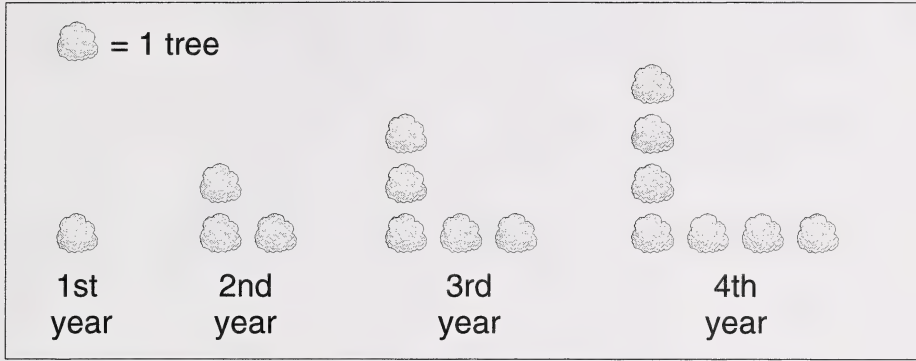
- ☐ 18
☐ 19
☐ 21
☐ 29
2. Mr. and Mrs. Brown meet us in the yard. The yard has a fence around it.



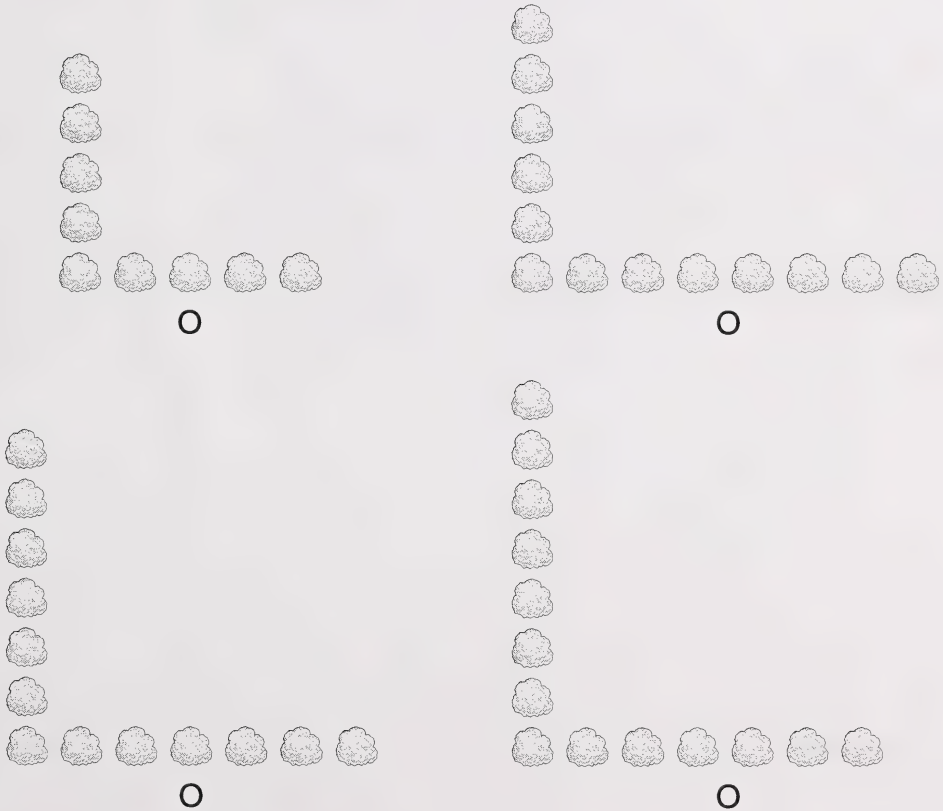
The distance around the yard is

- ☐ 112 m
☐ 123 m
☐ 222 m
☐ 444 m

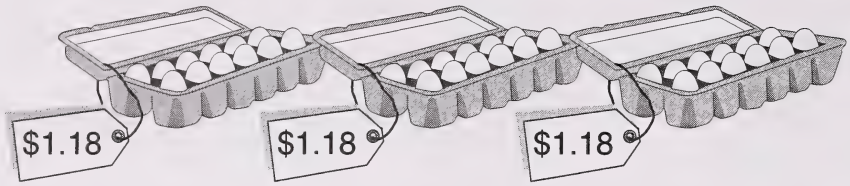
3. One year, the Browns planted a tree in the yard.
Each year after that, they planted two trees.
The trees are planted in the pattern shown below.



What will the yard look like in the 7th year?



4. Mrs. Brown sells one dozen eggs for \$1.18.



She sells three dozen eggs for

- ☐ \$2.36
- ☐ \$3.34
- ☐ \$3.44
- ☐ \$3.54

5. Mr. Brown plants vegetables.

He plants  before .

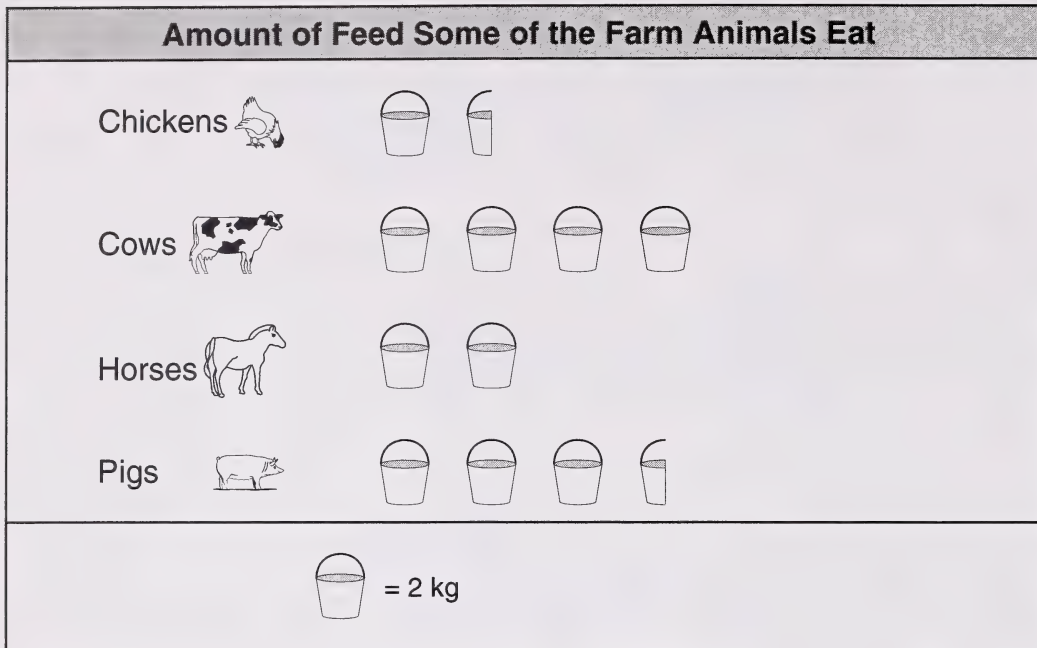
He plants  after .

He plants  before .

In what order does Mr. Brown plant vegetables?

- ☐ Potatoes, carrots, peas, corn
- ☐ Carrots, peas, corn, potatoes
- ☐ Peas, corn, potatoes, carrots
- ☐ Corn, potatoes, carrots, peas

Use this pictograph to answer questions 6 and 7.



6. In all, how many kilograms of feed do these animals eat?

- ☐ 11 kg
- ☐ 12 kg
- ☐ 22 kg
- ☐ 24 kg

7. How many more kilograms of feed do the cows eat than the chickens?

- ☐ 11 kg
- ☐ 8 kg
- ☐ 5 kg
- ☐ 4 kg

Use this information to answer question 8.

One bag of chicken feed costs \$7.86.

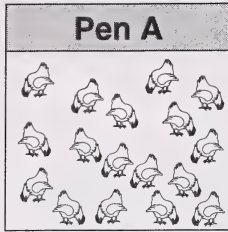


8. Which picture shows \$7.86?

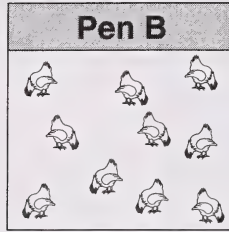
- ☐
- ☐
- ☐
- ☐

9. We see four pens of chickens.

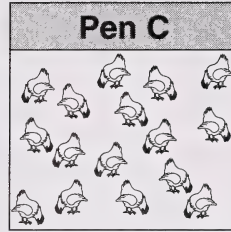
Each pen has a different number of chickens.



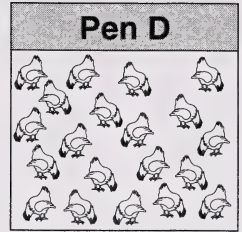
17 chickens



10 chickens



16 chickens



20 chickens

Which pen has an odd number of chickens?

- ☐ Pen A
- ☐ Pen B
- ☐ Pen C
- ☐ Pen D

- 10.** At lunchtime, 30 people sit at 5 picnic tables.
An equal number of people sit at each table.

How many people sit at each table?

- ☐ 5
- ☐ 6
- ☐ 25
- ☐ 30

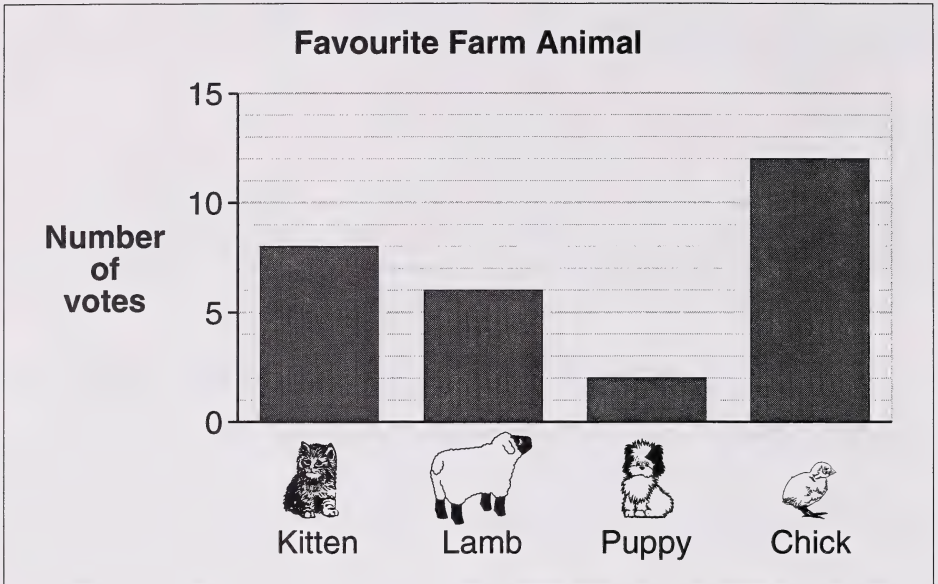
- 11.** Mr. Jones gives each of the 30 people one juice box for lunch.
The juice boxes come in packages that hold 10 juice boxes.

How many packages does he need for the 30 people?

- ☐ 30
- ☐ 12
- ☐ 3
- ☐ 2

Use this information to answer questions 12 and 13.

Some of the people vote for their favourite farm animal.




12. How many people vote altogether?


- ☐ 12
- ☐ 15
- ☐ 27
- ☐ 28

13. Which group of tallies matches the “Favourite Farm Animal” graph?


☐




Kitten



Lamb




Puppy




Chick

☐




Kitten



Lamb



Puppy



Chick


☐




Kitten



Lamb




Puppy




Chick


☐




Kitten



Lamb

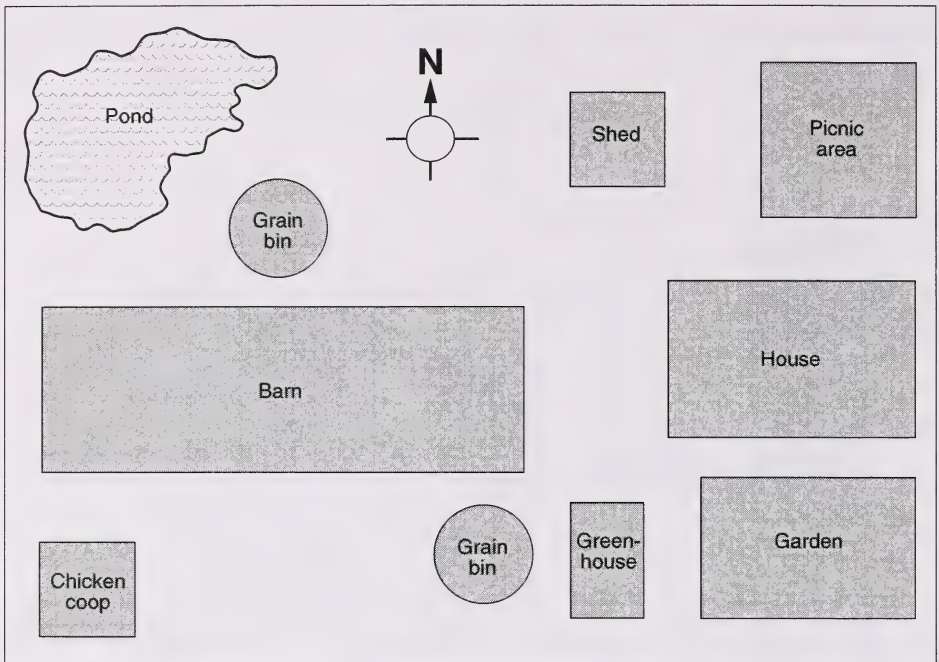


Puppy



Chick

Use this map of the farmyard to answer questions 14 and 15.

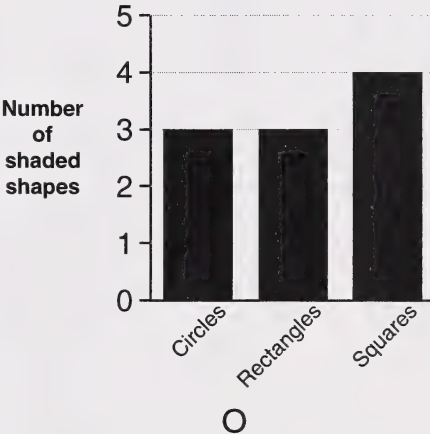
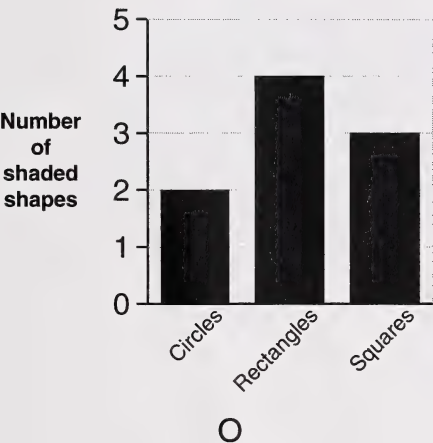
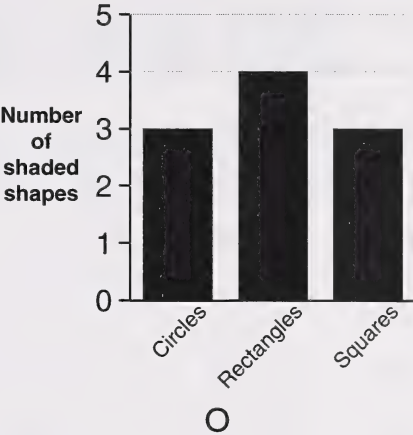
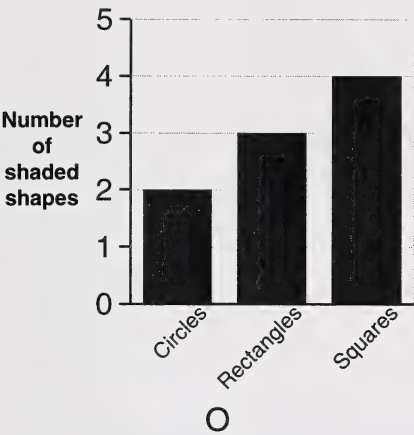


14. Mrs. Brown walks from the picnic area to the shed.

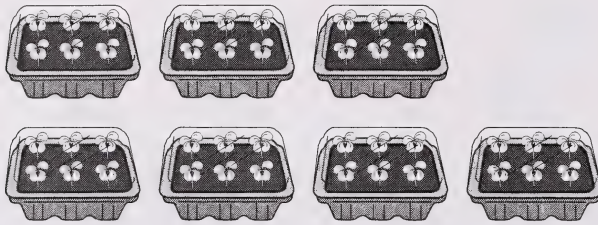
In which direction does she walk?

- ☐ North
- ☐ South
- ☐ East
- ☐ West

15. Which graph shows the number of shaded shapes on the map of the farmyard?



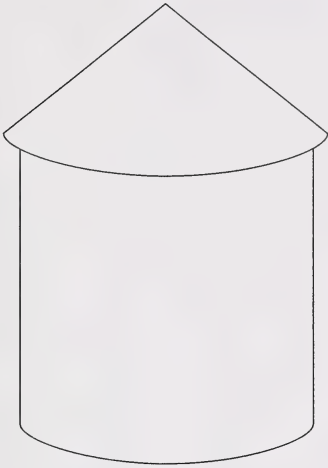
16. Inside the greenhouse, there are 7 plant trays with 6 plants in each tray.



Which number sentence shows the total number of plants?

- ☐ $7 - 6 = \blacksquare$
- ☐ $7 \times 6 = \blacksquare$
- ☐ $7 + 6 = \blacksquare$
- ☐ $7 \div 6 = \blacksquare$

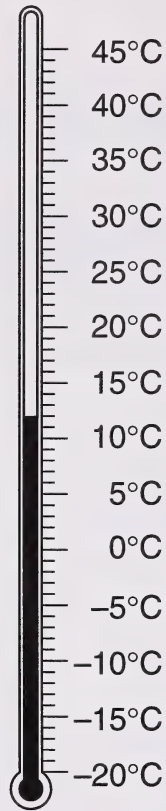
17. This is one of Mr. Brown's grain bins.



The shapes that make the grain bin are a

- ☐ triangle and a rectangular prism
- ☐ sphere and a triangular prism
- ☐ pyramid and a cube
- ☐ cone and a cylinder

18. In the morning, the temperature was 12°C .



In the afternoon, the temperature is 23°C .

How many degrees warmer is it in the afternoon than in the morning?

- ☐ 11°C
- ☐ 12°C
- ☐ 23°C
- ☐ 35°C

19. We visit the farm on June 1.

One week and three days later, Mr. and Mrs. Brown bring some animals to our school.

| JUNE 1999 | | | | | | |
|-----------|----|----|----|----|----|----|
| S | M | T | W | Th | F | S |
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |

They bring the animals on

- ☐ June 4
- ☐ June 8
- ☐ June 10
- ☐ June 11

20. On our way back to the school, we pass houses with these numbers.



What are the numbers on the next three houses?



The field trip is over.

“Tomorrow,” says Mr. Jones, “we will write a letter to Mr. and Mrs. Brown and tell them how much we enjoyed our visit to Sunny Farm.”

I am already thinking about what I will say in my letter.

Key and Descriptors for Part B: Sample Multiple-Choice Questions

| Item | Key | Reporting Category | Program Strand | Curriculum Standard |
|------|-----|--------------------|----------------|--|
| 1 | B | K | N | Determine an operation and find an answer |
| 2 | D | S | SS | Calculate perimeter using standard units |
| 3 | C | S | PR | Make a prediction based on an addition pattern |
| 4 | D | S | PR | Make a purchase based on repeated addition |
| 5 | A | S | SP | Identify rank order from data |
| 6 | C | S | SP | Perform arithmetic operation on the data |
| 7 | C | S | SP | Perform arithmetic operation on the data |
| 8 | D | S | SS | Distinguish which coins and bills represent the correct amount |
| 9 | A | S | N | Demonstrate if a number is odd or even |
| 10 | B | K | N | Determine the operation and find the quotient |
| 11 | C | S | N | Calculate product and quotients |
| 12 | D | K | PR | Perform an arithmetic operation on display data |
| 13 | A | S | SP | Obtain new information from the data |
| 14 | D | K | SS | Apply terms of direction |
| 15 | C | S | PR | Determine which display of sorted data is correct |
| 16 | B | K | N | Determine the correct number sentence |
| 17 | D | K | SS | Identify specific 3-D shapes/objects |
| 18 | A | K | SS | Use subtraction to determine temperature |
| 19 | D | S | N | Measure the passage of time in days and weeks |
| 20 | C | K | N | Make a prediction based on an addition pattern |

| Reporting Category | |
|--------------------|--|
| K | Knowledge includes knowledge of facts, concepts, generalizations, and procedures |
| S | Skills includes problem solving and application of knowledge |

| Program Strand | |
|----------------|----------------------------|
| N | Number |
| PR | Patterns and Relations |
| SS | Shape and Space |
| SP | Statistics and Probability |

Student Evaluation Branch Contacts

Mailing Address

Student Evaluation Branch
Alberta Learning
11160 Jasper Avenue
Edmonton, AB T5K 0L2

Telephone: 780-427-0010
Toll-free telephone connection: 310-0000
Fax: 780-422-3206
Alberta Learning web site:
<http://ednet.edc.gov.ab.ca>

Questions or comments regarding this bulletin should be directed to:

Greg Hall, Acting Assistant Director
ghall@edc.gov.ab.ca

Terry Gamble
Grade 3 Assessment Specialist
tgamble@edc.gov.ab.ca

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